

SEQUENCE LISTING

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 KLOETZER, WILLIAM S.

<120> NON-AGONISTIC ANTIBODIES TO HUMAN GP39, COMPOSITIONS
 CONTAINING, AND THERAPEUTIC USE THEREOF

<130> 037003-0280632

<140> 09/874,141
 <141> 2001-06-06

<150> 60/209,584
 <151> 2000-06-06

<160> 53

<170> PatentIn Ver. 2.1

<210> 1
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized peptide

<400> 1
 Asp Ile Val Met Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
 20 25 30
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2
 <211> 107
 <212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 2

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala
65 70 75 80

Glu Asp Val Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 3

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 3

Asp Ile Val Met Thr Gln Ser Pro Ser Phe Met Ser Thr Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Met Gln Pro
65 70 75 80

Glu Asp Phe Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 4
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized peptide

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 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Met Ala Thr Ser Leu Gly
 1 5 10 15
 Glu Arg Val Thr Ile Asn Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
 20 25 30
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Met Gln Ala
 65 70 75 80
 Glu Asp Val Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 5
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized peptide

<400> 5
 Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr Asn Gly
 20 25 30
 Phe Trp Ile Trp Ile Arg Lys Pro Pro Gly Asn Lys Leu Glu Tyr Met
 35 40 45
 Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala
85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 6

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 6

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr Asn Gly
20 25 30

Phe Trp Ile Trp Ile Arg Lys His Pro Gly Asn Lys Leu Glu Tyr Met
35 40 45

Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala
85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 7

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 7

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Ser Gly Asp Ser Ile Thr Asn Gly
 20 25 30

Phe Trp Ile Trp Ile Arg Lys His Pro Gly Asn Lys Leu Glu Tyr Met
 35 40 45

Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Asn Asn Gln Phe Ser Leu
 65 70 75 80

Asn Leu Asn Ser Val Thr Arg Ala Asp Thr Gly Val Tyr Tyr Cys Ala
 85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
 100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
 115 120

<210> 8

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic humanized peptide

<400> 8

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Ile Thr Asn Gly
 20 25 30

Phe Trp Ile Trp Ile Arg Lys Pro Pro Gly Asn Lys Leu Glu Tyr Met
 35 40 45

Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Tyr Leu
 65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala
 85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
 100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 9
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 9
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1 5 10 15
Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
20 25 30
Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
35 40 45
Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Met Gln Ser
65 70 75 80
Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
85 90 95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 10
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 10
Glu Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Lys Pro Ser Gln
1 5 10 15
Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Ile Thr Asn Gly
20 25 30
Phe Trp Ile Trp Ile Arg Lys Phe Pro Gly Asn Lys Leu Glu Tyr Met
35 40 45
Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Gln Asn Gln Phe Tyr Leu
65 70 75 80

Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Gly Thr Tyr Tyr Cys Ala
85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 11
<211> 38
<212> PRT
<213> Homo sapiens

<400> 11
Asp Ile Gln Met Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Lys Ala
20 25 30

Pro Lys Leu Leu Ile Tyr
35

<210> 12
<211> 38
<212> PRT
<213> Homo sapiens

<400> 12
Asp Ile Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Glu Ala
20 25 30

Pro Lys Val Leu Ile Tyr
35

<210> 13
<211> 38
<212> PRT
<213> Mus sp.

<400> 13
Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
1 5 10 15

Asp Arg Val Ser Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser
20 25 30

Pro Lys Leu Leu Ile Tyr
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<210> 14
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
humanized VL#1 peptide

<400> 14
Asp Ile Val Met Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Lys Ser
20 25 30

Pro Lys Leu Leu Ile Tyr
35

<210> 15
<211> 32
<212> PRT
<213> Homo sapiens

<400> 15
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
20 25 30

<210> 16
<211> 42
<212> PRT
<213> Homo sapiens

<400> 16
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Ser Asp Asp Phe Ala Thr Tyr Tyr Cys
20 25 30

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
35 40

<210> 17
<211> 42
<212> PRT
<213> Mus sp.

<400> 17

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15

Leu Thr Ile Ser Asn Met Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys
 20 25 30

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 35 40

<210> 18

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized VL#1 peptide

<400> 18

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Asp Tyr Phe Cys
 20 25 30

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 35 40

<210> 19

<211> 38

<212> PRT

<213> Homo sapiens

<400> 19

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Trp Tyr Gln Gln Lys Pro Gly Gln Pro
 20 25 30

Pro Lys Leu Leu Ile Tyr
 35

<210> 20

<211> 38

<212> PRT

<213> Mus sp.

<400> 20

Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
 1 5 10 15

Asp Arg Val Ser Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser
 20 25 30

Pro Lys Leu Leu Ile Tyr
35

<210> 21
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
humanized VL#2 peptide

<400> 21
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15
Glu Arg Ala Thr Ile Asn Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser
20 25 30

Pro Lys Leu Leu Ile Tyr
35

<210> 22
<211> 42
<212> PRT
<213> Homo sapiens

<400> 22
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15
Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys
20 25 30
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
35 40

<210> 23
<211> 42
<212> PRT
<213> Mus sp.

<400> 23
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15
Leu Thr Ile Ser Asn Met Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys
20 25 30
Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
35 40

<210> 24
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VL#2 peptide

<400> 24
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15
 Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Asp Tyr Phe Cys
 20 25 30
 Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 35 40

<210> 25
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 25
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 26
 <211> 30
 <212> PRT
 <213> Mus sp.

<400> 26
 Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Ser Val Lys Pro Ser Gln
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Ile Thr
 20 25 30

<210> 27
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#1 peptide

<400> 27
 Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr
 20 25 30

<210> 28
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 28
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 29
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 29
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 30
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#2 peptide

<400> 30
 Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr
 20 25 30

<210> 31
 <211> 46
 <212> PRT
 <213> Homo sapiens

<400> 31
 Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Arg Val
 1 5 10 15

Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30

Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 35 40 45

<210> 32
 <211> 46
 <212> PRT
 <213> Mus sp.

<400> 32
 Trp Ile Arg Lys Phe Pro Gly Asn Lys Leu Glu Tyr Met Gly Arg Ile
 1 5 10 15

Ser Ile Thr Arg Asp Thr Ser Gln Asn Gln Phe Tyr Leu Gln Leu Asn
 20 25 30

Ser Val Thr Thr Glu Asp Thr Gly Thr Tyr Tyr Cys Ala Cys
 35 40 45

<210> 33
 <211> 46
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#1 peptide

<400> 33
 Trp Ile Arg Lys Pro Pro Gly Asn Lys Leu Glu Tyr Met Gly Arg Ile
 1 5 10 15

Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30

Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala Cys
 35 40 45

<210> 34
 <211> 46
 <212> PRT
 <213> Homo sapiens

<400> 34
 Trp Ile Arg Gln Pro Ala Gly Lys Gly Leu Glu Trp Ile Gly Arg Val
 1 5 10 15

Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30

Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 35 40 45

<210> 35
 <211> 46
 <212> PRT
 <213> Homo sapiens

<400> 35
 Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp Ile Gly Arg Val
 1 5 10 15
 Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30
 Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 35 40 45

<210> 36
 <211> 46
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#2 peptide

<400> 36
 Trp Ile Arg Lys His Pro Gly Asn Lys Leu Glu Tyr Met Gly Arg Ile
 1 5 10 15
 Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30
 Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala Cys
 35 40 45

<210> 37
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 37
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 1 5 10

<210> 38
 <211> 11
 <212> PRT
 <213> Mus sp.

<400> 38
 Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 1 5 10

<210> 39

<211> 11
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized VH#1 peptide

<400> 39
 Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 1 5 10

<210> 40
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 40
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 1 5 10

<210> 41
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized VH#2 peptide

<400> 41
 Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 1 5 10

<210> 42
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 42
 tgcagcatcc gtacgtttga ttccagctt

29

<210> 43
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 43

gggggtgtcg tgctagctgm rgagacrgtg a

31

<210> 44

<211> 411

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
humanized VL#1 nucleotide

<220>

<221> CDS

<222> (13)..(411)

<400> 44

agatctctca cc atg ggc ttc aag atg gag tca cag ttt ctg gcc ttt gta 51
 Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val
 1 5 10

ttc gcg ttt ctc tgg ttg tct ggt gtt gat gga gac att gtg atg acc 99
 Phe Ala Phe Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr
 15 20 25

cag tct cca tct ttc ctc tcc gcc tcc gta gga gac agg gtc acc atc 147
 Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
 30 35 40 45

acc tgc aag gcc agt cag aat gtg att act gct gta gcc tgg tat caa 195
 Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln
 50 55 60

cag aaa cca gga aag tct cct aaa ttg ctg att tac tcg gca tcc aat 243
 Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn
 65 70 75

cgg tac act gga gtc cct gat cgc ttc tca ggc agt ggg tct ggg aca 291
 Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
 80 85 90

gat ttc act ctc acc atc agc tct ctc cag cca gaa gac ttc gca gat 339
 Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Asp
 95 100 105

tat ttc tgc cag caa tat aac agc tat ccg tac acg ttc gga ggg ggg 387
 Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly
 110 115 120 125

acc aag ctg gaa atc aaa cgt acg 411
 Thr Lys Leu Glu Ile Lys Arg Thr
 130

<210> 45

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized VL#1 amino acid

<400> 45

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Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val Phe Ala Phe
 1             5             10             15

Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr Gln Ser Pro
      20             25             30

Ser Phe Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
      35             40             45

Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro
      50             55             60

Gly Lys Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn Arg Tyr Thr
      65             70             75             80

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
      85             90             95

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Asp Tyr Phe Cys
      100            105            110

Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu
      115            120            125

Glu Ile Lys Arg Thr
      130

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<210> 46

<211> 411

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized VL#2 nucleotide

<220>

<221> CDS

<222> (13) .. (411)

<400> 46

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agatctctca cc atg ggc ttc aag atg gag tca cag ttt ctg gcc ttt gta 51
      Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val
          1             5             10

ttc gcg ttt ctc tgg ttg tct ggt gtt gat gga gac att gtg atg acc 99
Phe Ala Phe Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr
      15             20             25

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cag tct cca gat tct ctc gcc gtg tcc ctc gga gag agg gcc acc atc 147
 Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr Ile
 30 35 40 45

aac tgc aag gcc agt cag aat gtg att act gct gta gcc tgg tat caa 195
 Asn Cys Lys Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln
 50 55 60

cag aaa cca gga caa tct cct aaa ttg ctg att tac tcg gca tcc aat 243
 Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn
 65 70 75

cgg tac act gga gtc cct gat cgc ttc tca ggc agt ggg tct ggg aca 291
 Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
 80 85 90

gat ttc act ctc acc atc agc tct ctc cag gcc gaa gac gtg gca gat 339
 Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Asp
 95 100 105

tat ttc tgc cag caa tat aac agc tat ccg tac acg ttc gga ggg ggg 387
 Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly
 110 115 120 125

acc aag ctg gaa atc aaa cgt acg 411
 Thr Lys Leu Glu Ile Lys Arg Thr
 130

<210> 47

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized VL#2 amino acid

<400> 47

Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val Phe Ala Phe
 1 5 10 15

Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr Gln Ser Pro
 20 25 30

Asp Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys
 35 40 45

Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro
 50 55 60

Gly Gln Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn Arg Tyr Thr
 65 70 75 80

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 85 90 95

Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Asp Tyr Phe Cys
 100 105 110

Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu
 115 120 125

Glu Ile Lys Arg Thr
 130

<210> 48

<211> 426

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized VH#1 nucleotide

<220>

<221> CDS

<222> (7)..(426)

<400> 48

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 Met Met Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Leu Pro
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ggt ttc ctg tca gag gtg cag ctt cag gag tca gga cct ggc ctc gtg 96
 Gly Phe Leu Ser Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val
 15 20 25 30

aaa cct tct gag act ctg tcc ctc acc tgt acc gtc tct ggc gac tcc 144
 Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser
 35 40 45

atc act aat ggt ttc tgg atc tgg atc cgg aaa cca cca ggg aat aaa 192
 Ile Thr Asn Gly Phe Trp Ile Trp Ile Arg Lys Pro Pro Gly Asn Lys
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 Leu Glu Tyr Met Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn
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 Pro Ser Leu Lys Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn
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cag ttc tct cta aag ttg tct tct gtg act gcc gcc gac aca ggc gtg 336
 Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val
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 Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly Asp Arg Val Ser Ile
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 Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln
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 Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro
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 Gly Gln Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn Arg Tyr Thr
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 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
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Leu Thr Ile Ser Asn Met Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys
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 Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser
 35 40 45

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 95 100 105 110

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 Tyr Met Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser
 65 70 75 80
 Leu Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Gln Asn Gln Phe
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 Tyr Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Gly Thr Tyr Tyr
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 Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Ala Ser
 130 135 140